

<p align="center"><b>Notice of Allowability</b></p>	<b>Application No.</b> 10/797,617	<b>Applicant(s)</b> RHOADS ET AL.	
	<b>Examiner</b> Andrae S. Allison	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to March 9, 2004.
2. ☒ The allowed claim(s) is/are 1-6, 8, 10-11 and 13-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____</li> </ol> |
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## DETAILED ACTION

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6, 8, 10-11 and 13-20 drawn to a method of inputting image data with registration signals, classified in class 382, subclass 100.
- II. Claims 7,9 and 12 drawn to method of embedding a registration signal in image data, classified in class 382, subclass 100.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as detecting a feature of an image data set and providing a registration signal in correspondence with said detected feature. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a).

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Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

3. During a telephone conversation with Joel Meyer on July 19, 2007 a provisional election was made without traverse to prosecute the invention of "Image processing using embedded registration data to determine and compensate for geometric transformation", application number 10/797,617 claims 1-20. Claims 7, 9 and 12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

#### **EXAMINER'S AMENDMENT**

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with JOEL MEYER,(Reg # 37677) on July 19, 2007.

The claims has been amended as follows: The Application is in condition for allowance except for the existence of claims 7, 9 and 12 elected without traverse. Please cancel claims 7, 9 and 12.

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4. The following is an examiner's statement of reasons for allowance: The following is an examiner's statement of reasons for allowance: The most pertinent prior art is Cox (Patent No.: 6,226,396) and Ho et al (Patent No.: 6,983,057). Cox discloses a robust digital watermarking method: the method includes inputting image data with registration signals embedded therein, subjected to geometric transformation, and extracting registration signals from said inputted image data to perform registration processing. Cox teaches registration signal extracting step of extracting registration signals from said image data. Cox further teaches a frequency property determining step of determining frequency properties of said image data. However Cox does not teach a geometric transforming step of performing inverse transformation of said identified geometric transformation. Ho discloses a method for embedding a watermark including a geometric transforming step of performing inverse transformation of said identified geometric transformation. However, neither Cox nor Ho disclose a geometric transformation identifying step of identifying geometric transformation to which said image data is subjected, using said extracted registration signals and determination results of said determination in the frequency property determining step. Therefore, if watermarked data has undergone some kind of geometric transformation or attack by a perpetrator trying to altered the watermarked data, this method would be able to discern the type of attach and restore the watermark data. The examiner finds no reason or motivation to combine the above references in an obvious rejection thus placing the application in condition for allowance.

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5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

The prior art made part of the record and not relied upon is considered pertinent to applicant's disclosure.

Braudaway (US Patent No.: 6,571,021) is cited to teach a method for recovering an invisible digital image from a distorted image replica.

Chen et al (US Patent No.: 6,400,826) is cited to teach a method and apparatus for distortion compensation watermarking.

Daly et al (US Patent No.: 5,859,920) is cited to teach a method for embedding digital information in an image.

Honsinger et al (US Patent No.: 6,711,303) is cited to teach a method for detecting an amount of rotation and magnification.

Wen et al (US Patent No.: 6,754,365) is cited to teach a method of detecting embedded information in images.

Murakami (US Patent No.: 7,065,237) is cited to teach a method for embedding a watermark.

Hayashi et al (US Patent No.: 7,142,689) is cited to teach an image processing apparatus for determining specific images.

Nakano et al (US Patent No.: 6,418,232) is cited to teach method for authenticating digital watermark pictures.

Johnson et al ("NPL document titled: "Recovering Watermarks from Images") is cited to teach a method for recognizing distorted images and recovering their original appearances.

Ruanaidh et al, ("NPL document titled: "Rotation, Scale and Translation Invariant Digital Image Watermarking") is cited to a digital watermarking method.

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### ***Inquires***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrae S. Allison whose telephone number is (571) 270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 +-pm, EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

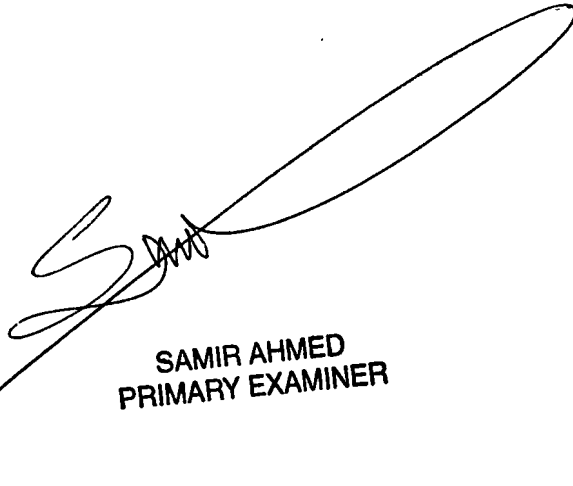
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access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison

July 19, 2007

A.A.

A handwritten signature in black ink, consisting of a large, stylized 'S' followed by 'AHMED' in a more compact, cursive script.

**SAMIR AHMED  
PRIMARY EXAMINER**